REMARKS

The allowability of claims 5-8 is acknowledged with appreciation. However, the Applicant respectfully traverses and requests consideration of the amended claims and the arguments below.

Amended claim 1, as exemplified in the disclosure, reads,

A semiconductor device comprising:

a semiconductor chip [14] *having a first main surface* [14b] *formed with electrode pads* [21] *and a second main surface* [14c] *opposite to the first main surface;*

a mounting substrate having a chip mounting surface [12a] *which has an area wider than an area of the second main surface and is opposed in face to face contact with the second main surface, the semiconductor chip being mounted on said mounting substrate;*

an encapsulating layer [32] *formed on the chip mounting surface so as to cover the semiconductor chip;*

wiring patterns [34] *electrically connected to the electrode pads and extending in contact with the encapsulating layer from a first region to a second region, the first region being located on the surface of the encapsulating layer which is located above the semiconductor chip and the second region being located on the surface of the encapsulating layer which surrounds the first region;*

external terminals [25; see page 29, line 9] *disposed on the surfaces of the wiring patterns located on the second region; and*

a first trench [18a] *formed on the mounting surface and extending from a first side surface of the mounting substrate to a second side surface of the mounting substrate opposite to the first side surface of the mounting substrate, wherein the encapsulating layer is formed in the first trench.*

Benavides' semiconductor device is the device 100, which is made of silicon (col. 11, line 66). The device 100 is mounted on a substrate 12 "via adhesive gasket 16" (col. 12, line 21) and the substrate 12 in turn is mounted on a larger base 40 by an adhesive layer 30 (col. 12, line 28).

(1) Benavides' bonding wires 104 are the only things that could correspond to the Applicant's claimed wiring pattern, because they are the only metallic things in the reference that extend from above the device 100 outward to a surrounding second region. However, they do not meet the claim language because they are not "located *on the surface* of the encapsulating layer" as claimed. Benavides' encapsulating layer, poured over the wires 104, "surrounds and protects" them (col. 13, lines 4-7). There is no wiring in Benavides that meets the language of claims 1 and 9.

(2) Benavides' has wire bonding pads 102 on the device 100 (Fig. 11 and col. 12, line 61) and external terminals 58 outside of both the chip and the substrate 12, but neither of these are located on the surface of the second region, as claimed. The Examiner asserts that the terminals 58 are "on the surface" of the bonding wires 104, but this is respectfully traversed as a strained interpretation, like saying that a table is "on" a book instead of the other way around.[1]

The Examiner asserts that "on" is synonymous with

(3) New claims 10-11 recite solder balls. None are shown in Benavides.

(4) Regarding claim 1, Benavides lacks a trench formed on the mounting surface. Benavides only discloses a gap formed, *beside* (not "on") the mounting surface of the substrate 12, in between the substrate 12 and the base 40. The Applicant believes that this is not a

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[1] On page 3 the Examiner apparently takes Official Notice of "electrode pads," asserting that the reference inherently has this feature and that electrode pads must be present "to facilitate external communication." It appears that the Examiner is asserting some feature in addition to Benavides' pads 102, bonding wires 104, and terminals 58. If the Examiner is so asserting, then Notice is respectfully traversed and an actual reference showing the asserted electrode pads is requested.

"trench" because a trench is formed in a single material or part. The Applicant's Random House Dictionary defines "trench" as "a long, narrow excavation" and "to form (a furrow, ditch, etc.) by cutting into or through something ... to make a cut in; cut into; carve." Thus, a gap forming by putting two pre-formed surfaces adjacent to one another is not a trench.

(5) Regarding claim 9, Benavides lacks any evident protruding portion formed on the mounting surface and extending from a first side surface of the mounting substrate to a second side surface of the mounting substrate opposite to the first side surface of the mounting substrate, wherein the protruding portion is covered with the encapsulating layer. The Examiner points at page 5, line 1 to the figure above (this is taken as the figure on page 3) but there is no notation indicating any protruding portion.

(6) The Examiner indicates first and second regions in the drawing on page 3, but these appear to be added arbitrarily with lines not in the reference but drawn in by the Examiner. Neither of the added lines is on the surface of the encapsulating layer and therefore they cannot anticipate.

Allowance is requested.

Respectfully submitted,

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I certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office (fax no. 571-273-8300) on August 21, 2006.

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